

## **APPENDIX C**

June 14, 2019

Alan Sundquist  
CDW Consultants, Inc.  
6 Huron Drive  
Natick, MA 01760

Project Location: Beaver St., Waltham, MA  
Client Job Number:  
Project Number: 1830  
Laboratory Work Order Number: 19F0402

Enclosed are results of analyses for samples received by the laboratory on June 7, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Michelle M. Koch  
Project Manager

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CDW Consultants, Inc.  
6 Huron Drive  
Natick, MA 01760  
ATTN: Alan Sundquist

REPORT DATE: 6/14/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1830

## ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19F0402

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Beaver St., Waltham, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GP-3 MW	19F0402-01	Ground Water		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SW-846 6020B SW-846 7470A SW-846 8260C SW-846 8270D	
GP-5 MW	19F0402-02	Ground Water		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SW-846 6020B SW-846 7470A SW-846 8081B SW-846 8082A SW-846 8151A SW-846 8260C SW-846 8270D	
GP-7 MW	19F0402-03	Ground Water		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SW-846 6020B SW-846 7470A SW-846 8081B SW-846 8082A SW-846 8151A SW-846 8260C SW-846 8270D	
MW-2	19F0402-04	Ground Water		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SW-846 6020B SW-846 7470A SW-846 8260C SW-846 8270D	

**CASE NARRATIVE SUMMARY**

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8270, only a select list of PAHs was analyzed and reported in order to achieve lower detection limits than possible with EPH analysis.

For method 8151 samples were derivatized on 06/12/19.

For method 8151 sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

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SW-846 8081B

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**Qualifications:****P-02**

Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

**Analyte & Samples(s) Qualified:**

Heptachlor Epoxide  
19F0402-03[GP-7 MW]

SW-846 8260C

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**Qualifications:****R-05**

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

**Analyte & Samples(s) Qualified:**

Acetone  
19F0402-01[GP-3 MW], 19F0402-02[GP-5 MW], 19F0402-03[GP-7 MW], 19F0402-04[MW-2], B232980-BLK1, B232980-BS1, B232980-BSD1

**RL-07**

Elevated reporting limit based on lowest point in calibration.

MA CAM reporting limit not met.

**Analyte & Samples(s) Qualified:**

Carbon Disulfide  
19F0402-01[GP-3 MW], 19F0402-02[GP-5 MW], 19F0402-03[GP-7 MW], 19F0402-04[MW-2]  
Methylene Chloride  
19F0402-01[GP-3 MW], 19F0402-02[GP-5 MW], 19F0402-03[GP-7 MW], 19F0402-04[MW-2]

**V-05**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

**Analyte & Samples(s) Qualified:**

1,2-Dichloropropane  
19F0402-01[GP-3 MW], 19F0402-02[GP-5 MW], 19F0402-03[GP-7 MW], 19F0402-04[MW-2], B232980-BLK1, B232980-BS1, B232980-BSD1, S037005-CCV1

**V-16**

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

**Analyte & Samples(s) Qualified:**

1,4-Dioxane  
19F0402-01[GP-3 MW], 19F0402-02[GP-5 MW], 19F0402-03[GP-7 MW], 19F0402-04[MW-2], B232980-BLK1, B232980-BS1, B232980-BSD1, S037005-CCV1

**V-20**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Samples(s) Qualified:**

Chloromethane  
B232980-BS1, B232980-BSD1, S037005-CCV1

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**MADEP-VPH-Feb 2018 Rev 2.1**

No significant modifications were made to the method. All VPH samples were received preserved properly at pH <2 in the proper containers as specified on the chain-of-custody form unless specified in this narrative.

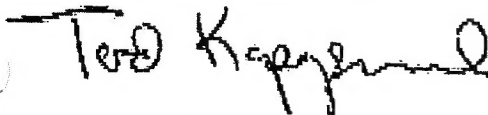
Analytical column used for VPH analysis is Restek, Rtx-502.2, 105meter, 0.53mmID, 3um df. Trap used for VPH analysis is CarboSieve B/CarboSieveS-III.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Tod E. Kopyscinski  
Laboratory Director



Project Location: Beaver St., Waltham, MA  
Date Received: 6/7/2019  
Field Sample #: GP-3 MW  
Sample ID: 19F0402-01  
Sample Matrix: Ground Water

Sample Description:

Sampled: 6/5/2019 09:15

Work Order: 19F0402

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	R-05	SW-846 8260C	6/11/19	6/12/19 9:32	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH

Project Location: Beaver St., Waltham, MA 39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Date Received: 6/7/2019

Sample Description:

Work Order: 19F0402

Field Sample #: GP-3 MW

Sampled: 6/5/2019 09:15

Sample ID: 19F0402-01

Sample Matrix: Ground Water

### Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 9:32	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:32	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	98.6	70-130						6/12/19 9:32	
Toluene-d8	97.2	70-130						6/12/19 9:32	
4-Bromofluorobenzene	98.5	70-130						6/12/19 9:32	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-3 MW

Sampled: 6/5/2019 09:15

Sample ID: 19F0402-01

Sample Matrix: Ground Water

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Benzo(a)pyrene (SIM)	ND	0.20	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Benzo(b)fluoranthene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Benzo(k)fluoranthene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Chrysene (SIM)	ND	2.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Dibenz(a,h)anthracene (SIM)	ND	0.50	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.50	µg/L	1		SW-846 8270D	6/12/19	6/13/19 10:20	CLA
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl (OTP) (SIM)	78.9		30-130				6/13/19 10:20		

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-3 MW

Sampled: 6/5/2019 09:15

Sample ID: 19F0402-01

Sample Matrix: Ground Water

## Petrolium Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Unadjusted C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 18:54	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	61.9	40-140						6/12/19 18:54	
o-Terphenyl (OTP)	75.7	40-140						6/12/19 18:54	
2-Bromonaphthalene	129	40-140						6/12/19 18:54	
2-Fluorobiphenyl	136	40-140						6/12/19 18:54	

Project Location: Beaver St., Waltham, MA 39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Date Received: 6/7/2019

Sample Description:

Work Order: 19F0402

Field Sample #: GP-3 MW

Sampled: 6/5/2019 09:15

Sample ID: 19F0402-01

Sample Matrix: Ground Water

### Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Benzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Ethylbenzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:02	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	107	70-130							
2,5-Dibromotoluene (PID)	101	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-3 MW

Sampled: 6/5/2019 09:15

Sample ID: 19F0402-01

Sample Matrix: Ground Water

### Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Barium	26	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:33	QNW
Cadmium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Chromium	7.0	1.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:33	QNW
Lead	3.3	0.50	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	6/11/19	6/12/19 12:15	AJL
Nickel	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Silver	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH
Vanadium	5.7	5.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:33	QNW
Zinc	15	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 17:59	MJH

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	R-05	SW-846 8260C	6/11/19	6/12/19 9:59	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 9:59	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 9:59	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	100	70-130						6/12/19 9:59	
Toluene-d8	97.2	70-130						6/12/19 9:59	
4-Bromofluorobenzene	96.8	70-130						6/12/19 9:59	



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Benzo(a)pyrene (SIM)	ND	0.20	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Benzo(b)fluoranthene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Benzo(k)fluoranthene (SIM)	ND	1.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Chrysene (SIM)	ND	2.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Dibenz(a,h)anthracene (SIM)	ND	0.50	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.50	µg/L	1		SW-846 8270D	6/12/19	6/13/19 15:36	CLA
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl (OTP) (SIM)	61.4		30-130				6/13/19 15:36		

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
alpha-BHC [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
beta-BHC [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
delta-BHC [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
gamma-BHC (Lindane) [1]	ND	0.032	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Chlordane [1]	ND	0.21	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
4,4'-DDD [1]	ND	0.042	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
4,4'-DDE [1]	ND	0.042	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
4,4'-DDT [1]	ND	0.042	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Dieldrin [1]	ND	0.0021	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Endosulfan I [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Endosulfan II [1]	ND	0.084	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Endosulfan sulfate [1]	ND	0.084	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Endrin [1]	ND	0.084	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Endrin ketone [1]	ND	0.084	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Heptachlor [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Heptachlor epoxide [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Hexachlorobenzene [1]	ND	0.053	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Methoxychlor [1]	ND	0.53	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:29	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	75.5	30-150							
Decachlorobiphenyl [2]	74.2	30-150							
Tetrachloro-m-xylene [1]	90.6	30-150							
Tetrachloro-m-xylene [2]	93.5	30-150							

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1221 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1232 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1242 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1248 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1254 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1260 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1262 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Aroclor-1268 [1]	ND	0.21	µg/L	1		SW-846 8082A	6/9/19	6/11/19 17:01	PJG
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	73.9		30-150				6/11/19 17:01		
Decachlorobiphenyl [2]	71.7		30-150				6/11/19 17:01		
Tetrachloro-m-xylene [1]	83.8		30-150				6/11/19 17:01		
Tetrachloro-m-xylene [2]	78.1		30-150				6/11/19 17:01		

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.51	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
2,4-DB [1]	ND	0.51	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
2,4,5-TP (Silvex) [1]	ND	0.051	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
2,4,5-T [1]	ND	0.10	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
Dalapon [1]	ND	1.3	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
Dicamba [1]	ND	0.051	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
Dichloroprop [1]	ND	0.51	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
Dinoseb [1]	ND	0.26	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
MCPA [1]	ND	51	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
MCPP [1]	ND	51	µg/L	1		SW-846 8151A	6/10/19	6/13/19 21:43	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,4-Dichlorophenylacetic acid [1]	94.8	30-150							
2,4-Dichlorophenylacetic acid [2]	88.5	30-150							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

# Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Unadjusted C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
C11-C22 Aromatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:13	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	60.1	40-140						6/12/19 19:13	
o-Terphenyl (OTP)	67.5	40-140						6/12/19 19:13	
2-Bromonaphthalene	125	40-140						6/12/19 19:13	
2-Fluorobiphenyl	135	40-140						6/12/19 19:13	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

## Petrochemical Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Benzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Ethylbenzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 22:31	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	115	70-130							
2,5-Dibromotoluene (PID)	111	70-130							

Project Location: Beaver St., Waltham, MA 39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Date Received: 6/7/2019

Sample Description:

Work Order: 19F0402

Field Sample #: GP-5 MW

Sampled: 6/5/2019 10:30

Sample ID: 19F0402-02

Sample Matrix: Ground Water

# Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Barium	42	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:38	QNW
Cadmium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Chromium	4.0	1.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:38	QNW
Lead	1.9	0.50	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	6/11/19	6/12/19 12:21	AJL
Nickel	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Silver	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:38	QNW
Zinc	ND	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:06	MJH

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	R-05	SW-846 8260C	6/11/19	6/12/19 10:25	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Chlorobenzene	11	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,4-Dichlorobenzene	5.4	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2-Dichloroethane	1.7	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 10:25	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:25	EEH
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
1,2-Dichloroethane-d4	99.3	70-130						6/12/19 10:25	
Toluene-d8	98.5	70-130						6/12/19 10:25	
4-Bromofluorobenzene	99.3	70-130						6/12/19 10:25	

Project Location: Beaver St., Waltham, MA      39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332  
 Date Received: 6/7/2019      Sample Description:      Work Order: 19F0402  
 Field Sample #: GP-7 MW      Sampled: 6/5/2019 12:05  
 Sample ID: 19F0402-03  
 Sample Matrix: Ground Water

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	ND	0.95	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Benzo(a)pyrene (SIM)	ND	0.19	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Benzo(b)fluoranthene (SIM)	ND	0.95	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Benzo(k)fluoranthene (SIM)	ND	0.95	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Chrysene (SIM)	ND	1.9	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Dibenz(a,h)anthracene (SIM)	ND	0.48	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.48	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:05	CLA
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl (OTP) (SIM)	56.3		30-130				6/13/19 16:05		

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.057	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
alpha-BHC [1]	5.2	0.57	µg/L	10		SW-846 8081B	6/9/19	6/12/19 10:16	TG
beta-BHC [1]	2.0	0.057	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
delta-BHC [2]	14	0.57	µg/L	10		SW-846 8081B	6/9/19	6/12/19 10:16	TG
gamma-BHC (Lindane) [1]	0.36	0.034	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Chlordane [2]	3.2	0.23	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
4,4'-DDD [1]	ND	0.046	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
4,4'-DDE [1]	ND	0.046	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
4,4'-DDT [2]	0.057	0.046	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Dieldrin [2]	0.19	0.0023	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Endosulfan I [1]	ND	0.057	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Endosulfan II [1]	ND	0.092	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Endosulfan sulfate [1]	ND	0.092	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Endrin [1]	ND	0.092	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Endrin ketone [1]	ND	0.092	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Heptachlor [1]	ND	0.057	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Heptachlor epoxide [1]	0.15	0.057	µg/L	1	P-02	SW-846 8081B	6/9/19	6/11/19 21:56	TG
Hexachlorobenzene [1]	ND	0.057	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Methoxychlor [1]	ND	0.57	µg/L	1		SW-846 8081B	6/9/19	6/11/19 21:56	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	89.7	30-150							
Decachlorobiphenyl [2]	89.1	30-150							
Tetrachloro-m-xylene [1]	93.8	30-150							
Tetrachloro-m-xylene [2]	94.0	30-150							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1221 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1232 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1242 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1248 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1254 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1260 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1262 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Aroclor-1268 [1]	ND	0.23	µg/L	1		SW-846 8082A	6/9/19	6/12/19 10:17	PJG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	84.1	30-150						6/12/19 10:17	
Decachlorobiphenyl [2]	76.3	30-150						6/12/19 10:17	
Tetrachloro-m-xylene [1]	75.8	30-150						6/12/19 10:17	
Tetrachloro-m-xylene [2]	70.0	30-150						6/12/19 10:17	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	0.50	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
2,4-DB [1]	ND	0.50	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
2,4,5-TP (Silvex) [1]	ND	0.050	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
2,4,5-T [1]	ND	0.10	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
Dalapon [1]	ND	1.2	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
Dicamba [1]	ND	0.050	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
Dichloroprop [1]	ND	0.50	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
Dinoseb [1]	ND	0.25	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
MCPA [1]	ND	50	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
MCPP [1]	ND	50	µg/L	1		SW-846 8151A	6/10/19	6/13/19 22:22	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,4-Dichlorophenylacetic acid [1]	81.7	30-150						6/13/19 22:22	
2,4-Dichlorophenylacetic acid [2]	85.5	30-150						6/13/19 22:22	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

### Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	95	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
C19-C36 Aliphatics	ND	95	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Unadjusted C11-C22 Aromatics	ND	95	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
C11-C22 Aromatics	ND	95	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Acenaphthene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Acenaphthylene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Anthracene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Benzo(g,h,i)perylene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Fluoranthene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Fluorene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
2-Methylnaphthalene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Naphthalene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Phenanthrene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Pyrene	ND	1.9	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:32	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	60.2	40-140						6/12/19 19:32	
o-Terphenyl (OTP)	63.5	40-140						6/12/19 19:32	
2-Bromonaphthalene	86.1	40-140						6/12/19 19:32	
2-Fluorobiphenyl	92.4	40-140						6/12/19 19:32	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

### Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Benzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Ethylbenzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:01	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	102	70-130							
2,5-Dibromotoluene (PID)	101	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: GP-7 MW

Sampled: 6/5/2019 12:05

Sample ID: 19F0402-03

Sample Matrix: Ground Water

## Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Arsenic	12	0.80	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Barium	20	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:41	QNW
Cadmium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Chromium	4.7	1.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:41	QNW
Lead	3.2	0.50	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	6/11/19	6/12/19 12:23	AJL
Nickel	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Silver	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:41	QNW
Zinc	12	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:10	MJH



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1	R-05	SW-846 8260C	6/11/19	6/12/19 10:52	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Bromodichloromethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
2-Butanone (MEK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Carbon Disulfide	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
cis-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
trans-1,3-Dichloropropene	ND	0.40	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Ethylbenzene	2.4	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.60	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Methylene Chloride	ND	5.0	µg/L	1	RL-07	SW-846 8260C	6/11/19	6/12/19 10:52	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2,3-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	6/11/19	6/12/19 10:52	EEH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	98.0	70-130						6/12/19 10:52	
Toluene-d8	98.0	70-130						6/12/19 10:52	
4-Bromofluorobenzene	97.6	70-130						6/12/19 10:52	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

## Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Benzo(a)anthracene (SIM)	ND	0.99	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Benzo(a)pyrene (SIM)	ND	0.20	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Benzo(b)fluoranthene (SIM)	ND	0.99	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Benzo(k)fluoranthene (SIM)	ND	0.99	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Chrysene (SIM)	ND	2.0	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Dibenz(a,h)anthracene (SIM)	ND	0.49	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.49	µg/L	1		SW-846 8270D	6/12/19	6/13/19 16:34	CLA
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
o-Terphenyl (OTP) (SIM)	62.7		30-130				6/13/19 16:34		

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	150	99	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
C19-C36 Aliphatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Unadjusted C11-C22 Aromatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
C11-C22 Aromatics	ND	99	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	6/11/19	6/12/19 19:51	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	62.4	40-140						6/12/19 19:51	
o-Terphenyl (OTP)	65.7	40-140						6/12/19 19:51	
2-Bromonaphthalene	83.6	40-140						6/12/19 19:51	
2-Fluorobiphenyl	91.1	40-140						6/12/19 19:51	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19F0402

Date Received: 6/7/2019

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

## Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Benzene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Ethylbenzene	2.2	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Toluene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-Feb 2018 Rev 2.1	6/11/19	6/11/19 23:30	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	96.4	70-130						6/11/19 23:30	
2,5-Dibromotoluene (PID)	95.9	70-130						6/11/19 23:30	

Project Location: Beaver St., Waltham, MA 39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Date Received: 6/7/2019 Sample Description:

Work Order: 19F0402

Field Sample #: MW-2

Sampled: 6/5/2019 13:30

Sample ID: 19F0402-04

Sample Matrix: Ground Water

### Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Arsenic	ND	0.80	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Barium	33	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:44	QNW
Cadmium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Chromium	1.1	1.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:44	QNW
Lead	ND	0.50	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	6/11/19	6/12/19 12:24	AJL
Nickel	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Silver	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020B	6/11/19	6/14/19 8:44	QNW
Zinc	ND	10	µg/L	1		SW-846 6020B	6/11/19	6/13/19 18:13	MJH

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### Sample Extraction Data

Prep Method: SW-846 3510C-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B232960	1000	2.00	06/11/19
19F0402-02 [GP-5 MW]	B232960	1000	2.00	06/11/19
19F0402-03 [GP-7 MW]	B232960	945	1.80	06/11/19
19F0402-04 [MW-2]	B232960	1020	2.00	06/11/19

Prep Method: MA VPH-MADEP-VPH-Feb 2018 Rev 2.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B233005	5	5.00	06/11/19
19F0402-02 [GP-5 MW]	B233005	5	5.00	06/11/19
19F0402-03 [GP-7 MW]	B233005	5	5.00	06/11/19
19F0402-04 [MW-2]	B233005	5	5.00	06/11/19

Prep Method: SW-846 3005A Dissolved-SW-846 6020B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B233013	50.0	50.0	06/11/19
19F0402-02 [GP-5 MW]	B233013	50.0	50.0	06/11/19
19F0402-03 [GP-7 MW]	B233013	50.0	50.0	06/11/19
19F0402-04 [MW-2]	B233013	50.0	50.0	06/11/19

Prep Method: SW-846 7470A Dissolved-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B233055	6.00	6.00	06/11/19
19F0402-02 [GP-5 MW]	B233055	6.00	6.00	06/11/19
19F0402-03 [GP-7 MW]	B233055	6.00	6.00	06/11/19
19F0402-04 [MW-2]	B233055	6.00	6.00	06/11/19

Prep Method: SW-846 3510C-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-02 [GP-5 MW]	B232858	950	10.0	06/09/19
19F0402-03 [GP-7 MW]	B232858	870	10.0	06/09/19

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-02 [GP-5 MW]	B232856	950	10.0	06/09/19
19F0402-03 [GP-7 MW]	B232856	870	10.0	06/09/19

Prep Method: SW-846 3510C-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
F0402-02 [GP-5 MW]	B232959	980	5.00	06/10/19
19F0402-03 [GP-7 MW]	B232959	1000	5.00	06/10/19

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### Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B232980	5	5.00	06/11/19
19F0402-02 [GP-5 MW]	B232980	5	5.00	06/11/19
19F0402-03 [GP-7 MW]	B232980	5	5.00	06/11/19
19F0402-04 [MW-2]	B232980	5	5.00	06/11/19

Prep Method: SW-846 3510C-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
19F0402-01 [GP-3 MW]	B233211	1000	2.00	06/12/19
19F0402-02 [GP-5 MW]	B233211	1000	2.00	06/12/19
19F0402-03 [GP-7 MW]	B233211	945	1.80	06/12/19
19F0402-04 [MW-2]	B233211	1020	2.00	06/12/19



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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232980 - SW-846 5030B										
Blank (B232980-BLK1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
Acetone	ND	10	µg/L							R-05
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							V-05
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							V-16
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
n-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
thyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232980 - SW-846 5030B										
Blank (B232980-BLK1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	2.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	2.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	23.7		µg/L	25.0		94.6	70-130			
Surrogate: Toluene-d8	24.8		µg/L	25.0		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	24.9		µg/L	25.0		99.5	70-130			
LCS (B232980-BS1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
Acetone	116	10	µg/L	100		116	40-160			
tert-Amyl Methyl Ether (TAME)	9.38	0.50	µg/L	10.0		93.8	70-130			R-05 †
Benzene	10.2	1.0	µg/L	10.0		102	70-130			
Bromobenzene	10.8	1.0	µg/L	10.0		108	70-130			
Bromochloromethane	10.4	1.0	µg/L	10.0		104	70-130			
Bromodichloromethane	10.4	1.0	µg/L	10.0		104	70-130			
Bromoform	10.0	1.0	µg/L	10.0		100	70-130			
Bromomethane	4.10	2.0	µg/L	10.0		41.0	40-160			L-14 †
2-Butanone (MEK)	98.6	10	µg/L	100		98.6	40-160			†
n-Butylbenzene	10.3	1.0	µg/L	10.0		103	70-130			
sec-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
tert-Butylbenzene	10.4	1.0	µg/L	10.0		104	70-130			
tert-Butyl Ethyl Ether (TBEE)	9.14	0.50	µg/L	10.0		91.4	70-130			
Carbon Disulfide	10.2	5.0	µg/L	10.0		102	70-130			
Carbon Tetrachloride	9.89	1.0	µg/L	10.0		98.9	70-130			
Chlorobenzene	11.1	1.0	µg/L	10.0		111	70-130			
Chlorodibromomethane	9.64	0.50	µg/L	10.0		96.4	70-130			
Chloroethane	9.59	2.0	µg/L	10.0		95.9	70-130			
Chloroform	10.3	2.0	µg/L	10.0		103	70-130			
Chloromethane	13.5	2.0	µg/L	10.0		135	40-160			L-14, V-20 †
2-Chlorotoluene	11.0	1.0	µg/L	10.0		110	70-130			
4-Chlorotoluene	11.0	1.0	µg/L	10.0		110	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	10.2	2.0	µg/L	10.0		102	70-130			
1,2-Dibromoethane (EDB)	10.6	0.50	µg/L	10.0		106	70-130			
Bromomethane	10.0	1.0	µg/L	10.0		100	70-130			
1,2-Dichlorobenzene	11.0	1.0	µg/L	10.0		110	70-130			
1,3-Dichlorobenzene	11.2	1.0	µg/L	10.0		112	70-130			
1,4-Dichlorobenzene	10.8	1.0	µg/L	10.0		108	70-130			

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232980 - SW-846 5030B										
LCS (B232980-BS1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
Dichlorodifluoromethane (Freon 12)	6.89	2.0	µg/L	10.0		68.9	40-160			
1,1-Dichloroethane	10.0	1.0	µg/L	10.0		100	70-130			L-14 †
1,2-Dichloroethane	10.3	1.0	µg/L	10.0		103	70-130			
1,1-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			
cis-1,2-Dichloroethylene	9.87	1.0	µg/L	10.0		98.7	70-130			
trans-1,2-Dichloroethylene	9.99	1.0	µg/L	10.0		99.9	70-130			
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130			
1,3-Dichloropropane	10.1	0.50	µg/L	10.0		101	70-130			
2,2-Dichloropropane	8.05	1.0	µg/L	10.0		80.5	70-130			
1,1-Dichloropropene	9.91	0.50	µg/L	10.0		99.1	70-130			V-05
cis-1,3-Dichloropropene	9.60	0.40	µg/L	10.0		96.0	70-130			
trans-1,3-Dichloropropene	9.39	0.40	µg/L	10.0		93.9	70-130			
Diethyl Ether	9.90	2.0	µg/L	10.0		99.0	70-130			
Diisopropyl Ether (DIPE)	9.61	0.50	µg/L	10.0		96.1	70-130			
1,4-Dioxane	107	50	µg/L	100		107	40-160			V-16 †
Ethylbenzene	10.9	1.0	µg/L	10.0		109	70-130			
Hexachlorobutadiene	11.4	0.60	µg/L	10.0		114	70-130			
2-Hexanone (MBK)	98.6	10	µg/L	100		98.6	40-160			†
Isopropylbenzene (Cumene)	11.2	1.0	µg/L	10.0		112	70-130			
Isopropyltoluene (p-Cymene)	10.5	1.0	µg/L	10.0		105	70-130			
Methyl tert-Butyl Ether (MTBE)	10.3	1.0	µg/L	10.0		103	70-130			
Methylene Chloride	10.3	5.0	µg/L	10.0		103	70-130			
4-Methyl-2-pentanone (MIBK)	97.8	10	µg/L	100		97.8	40-160			†
Naphthalene	10.7	2.0	µg/L	10.0		107	70-130			
n-Propylbenzene	11.1	1.0	µg/L	10.0		111	70-130			
Styrene	11.0	1.0	µg/L	10.0		110	70-130			
1,1,1,2-Tetrachloroethane	11.1	1.0	µg/L	10.0		111	70-130			
1,1,2,2-Tetrachloroethane	11.0	0.50	µg/L	10.0		110	70-130			
Tetrachloroethylene	11.5	1.0	µg/L	10.0		115	70-130			
Tetrahydrofuran	10.7	2.0	µg/L	10.0		107	70-130			
Toluene	10.4	1.0	µg/L	10.0		104	70-130			
1,2,3-Trichlorobenzene	10.7	2.0	µg/L	10.0		107	70-130			
1,2,4-Trichlorobenzene	10.7	1.0	µg/L	10.0		107	70-130			
1,1,1-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130			
1,1,2-Trichloroethane	10.8	1.0	µg/L	10.0		108	70-130			
Trichloroethylene	11.2	1.0	µg/L	10.0		112	70-130			
Trichlorofluoromethane (Freon 11)	9.14	2.0	µg/L	10.0		91.4	70-130			
1,2,3-Trichloropropane	10.9	2.0	µg/L	10.0		109	70-130			
1,2,4-Trimethylbenzene	10.0	1.0	µg/L	10.0		100	70-130			
1,3,5-Trimethylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
Vinyl Chloride	8.55	2.0	µg/L	10.0		85.5	70-130			
m+p Xylene	22.0	2.0	µg/L	20.0		110	70-130			
o-Xylene	11.2	1.0	µg/L	10.0		112	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.2		µg/L	25.0		97.0	70-130			
Surrogate: Toluene-d8	24.8		µg/L	25.0		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	25.4		µg/L	25.0		102	70-130			

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232980 - SW-846 5030B										
LCS Dup (B232980-BSD1)					Prepared: 06/11/19 Analyzed: 06/12/19					
Acetone	93.3	10	µg/L	100		93.3	40-160	21.4 *	20	R-05 †
tert-Amyl Methyl Ether (TAME)	9.37	0.50	µg/L	10.0		93.7	70-130	0.107	20	
Benzene	9.98	1.0	µg/L	10.0		99.8	70-130	2.08	20	
Bromobenzene	10.4	1.0	µg/L	10.0		104	70-130	3.11	20	
Bromochloromethane	10.2	1.0	µg/L	10.0		102	70-130	1.45	20	
Bromodichloromethane	10.2	1.0	µg/L	10.0		102	70-130	1.65	20	
Bromoform	9.67	1.0	µg/L	10.0		96.7	70-130	3.46	20	
Bromomethane	4.13	2.0	µg/L	10.0		41.3	40-160	0.729	20	L-14 †
2-Butanone (MEK)	90.4	10	µg/L	100		90.4	40-160	8.71	20	†
n-Butylbenzene	9.91	1.0	µg/L	10.0		99.1	70-130	3.76	20	
sec-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130	0.00	20	
tert-Butylbenzene	10.3	1.0	µg/L	10.0		103	70-130	1.06	20	
tert-Butyl Ethyl Ether (TBEE)	9.10	0.50	µg/L	10.0		91.0	70-130	0.439	20	
Carbon Disulfide	9.50	5.0	µg/L	10.0		95.0	70-130	7.01	20	
Carbon Tetrachloride	9.76	1.0	µg/L	10.0		97.6	70-130	1.32	20	
Chlorobenzene	11.0	1.0	µg/L	10.0		110	70-130	0.724	20	
Chlorodibromomethane	9.67	0.50	µg/L	10.0		96.7	70-130	0.311	20	
Chloroethane	9.60	2.0	µg/L	10.0		96.0	70-130	0.104	20	
Chloroform	10.1	2.0	µg/L	10.0		101	70-130	1.57	20	
Chloromethane	13.4	2.0	µg/L	10.0		134	40-160	0.594	20	L-14, V-20 †
2-Chlorotoluene	10.4	1.0	µg/L	10.0		104	70-130	6.16	20	
4-Chlorotoluene	10.6	1.0	µg/L	10.0		106	70-130	3.52	20	
1,2-Dibromo-3-chloropropane (DBCP)	9.81	2.0	µg/L	10.0		98.1	70-130	4.00	20	
1,2-Dibromoethane (EDB)	10.7	0.50	µg/L	10.0		107	70-130	0.375	20	
Dibromomethane	10.2	1.0	µg/L	10.0		102	70-130	1.98	20	
1,2-Dichlorobenzene	10.8	1.0	µg/L	10.0		108	70-130	1.19	20	
1,3-Dichlorobenzene	11.0	1.0	µg/L	10.0		110	70-130	2.43	20	
1,4-Dichlorobenzene	10.7	1.0	µg/L	10.0		107	70-130	0.742	20	
Dichlorodifluoromethane (Freon 12)	6.69	2.0	µg/L	10.0		66.9	40-160	2.95	20	L-14 †
1,1-Dichloroethane	9.69	1.0	µg/L	10.0		96.9	70-130	3.45	20	
1,2-Dichloroethane	10.2	1.0	µg/L	10.0		102	70-130	1.56	20	
1,1-Dichloroethylene	9.99	1.0	µg/L	10.0		99.9	70-130	1.10	20	
cis-1,2-Dichloroethylene	9.73	1.0	µg/L	10.0		97.3	70-130	1.43	20	
trans-1,2-Dichloroethylene	9.58	1.0	µg/L	10.0		95.8	70-130	4.19	20	
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130	0.0965	20	
1,3-Dichloropropane	9.72	0.50	µg/L	10.0		97.2	70-130	4.23	20	
2,2-Dichloropropane	7.75	1.0	µg/L	10.0		77.5	70-130	3.80	20	V-05
1,1-Dichloropropene	9.80	0.50	µg/L	10.0		98.0	70-130	1.12	20	
cis-1,3-Dichloropropene	9.61	0.40	µg/L	10.0		96.1	70-130	0.104	20	
trans-1,3-Dichloropropene	9.40	0.40	µg/L	10.0		94.0	70-130	0.106	20	
Diethyl Ether	10.1	2.0	µg/L	10.0		101	70-130	2.10	20	
Diisopropyl Ether (DIPE)	9.41	0.50	µg/L	10.0		94.1	70-130	2.10	20	
1,4-Dioxane	97.7	50	µg/L	100		97.7	40-160	9.13	20	V-16 †
Ethylbenzene	10.4	1.0	µg/L	10.0		104	70-130	4.70	20	
Hexachlorobutadiene	11.7	0.60	µg/L	10.0		117	70-130	2.34	20	
2-Hexanone (MBK)	93.7	10	µg/L	100		93.7	40-160	5.10	20	†
Isopropylbenzene (Cumene)	10.6	1.0	µg/L	10.0		106	70-130	4.95	20	
Isopropyltoluene (p-Cymene)	10.2	1.0	µg/L	10.0		102	70-130	2.99	20	
Methyl tert-Butyl Ether (MTBE)	10.2	1.0	µg/L	10.0		102	70-130	1.27	20	
Methylene Chloride	10.4	5.0	µg/L	10.0		104	70-130	0.483	20	
4-Methyl-2-pentanone (MIBK)	95.0	10	µg/L	100		95.0	40-160	2.85	20	†
Naphthalene	10.7	2.0	µg/L	10.0		107	70-130	0.0932	20	

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232980 - SW-846 5030B										
LCS Dup (B232980-BSD1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
n-Propylbenzene	10.6	1.0	µg/L	10.0		106	70-130	4.60	20	
Styrene	10.6	1.0	µg/L	10.0		106	70-130	3.90	20	
1,1,1,2-Tetrachloroethane	10.7	1.0	µg/L	10.0		107	70-130	3.30	20	
1,1,2,2-Tetrachloroethane	11.3	0.50	µg/L	10.0		113	70-130	2.15	20	
Tetrachloroethylene	11.0	1.0	µg/L	10.0		110	70-130	4.34	20	
Tetrahydrofuran	10.2	2.0	µg/L	10.0		102	70-130	5.18	20	
Toluene	10.5	1.0	µg/L	10.0		105	70-130	0.953	20	
1,2,3-Trichlorobenzene	10.3	2.0	µg/L	10.0		103	70-130	3.61	20	
1,2,4-Trichlorobenzene	10.7	1.0	µg/L	10.0		107	70-130	0.748	20	
1,1,1-Trichloroethane	9.89	1.0	µg/L	10.0		98.9	70-130	3.28	20	
1,1,2-Trichloroethane	11.1	1.0	µg/L	10.0		111	70-130	2.83	20	
Trichloroethylene	10.8	1.0	µg/L	10.0		108	70-130	3.47	20	
Trichlorofluoromethane (Freon 11)	8.73	2.0	µg/L	10.0		87.3	70-130	4.59	20	
1,2,3-Trichloropropane	10.6	2.0	µg/L	10.0		106	70-130	2.60	20	
1,2,4-Trimethylbenzene	10.1	1.0	µg/L	10.0		101	70-130	0.896	20	
1,3,5-Trimethylbenzene	10.5	1.0	µg/L	10.0		105	70-130	2.17	20	
Vinyl Chloride	8.31	2.0	µg/L	10.0		83.1	70-130	2.85	20	
m+p Xylene	21.1	2.0	µg/L	20.0		105	70-130	4.18	20	
o-Xylene	10.8	1.0	µg/L	10.0		108	70-130	3.00	20	
Surrogate: 1,2-Dichloroethane-d4	23.5		µg/L	25.0		94.2	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.9	70-130			
Surrogate: 4-Bromofluorobenzene	25.5		µg/L	25.0		102	70-130			

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## QUALITY CONTROL

## Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B233211 - SW-846 3510C</b>										
<b>Blank (B233211-BLK1)</b>										
Prepared: 06/12/19 Analyzed: 06/13/19										
Benzo(a)anthracene (SIM)	ND	1.0	µg/L							
Benzo(a)pyrene (SIM)	ND	0.20	µg/L							
Benzo(b)fluoranthene (SIM)	ND	1.0	µg/L							
Benzo(k)fluoranthene (SIM)	ND	1.0	µg/L							
Chrysene (SIM)	ND	2.0	µg/L							
Dibenz(a,h)anthracene (SIM)	ND	0.50	µg/L							
Indeno(1,2,3-cd)pyrene (SIM)	ND	0.50	µg/L							
Surrogate: o-Terphenyl (OTP) (SIM)	62.4		µg/L	100		62.4	30-130			
<b>LCS (B233211-BS1)</b>										
Prepared: 06/12/19 Analyzed: 06/13/19										
Benzo(a)anthracene (SIM)	67.4	20	µg/L	100		67.4	40-140			
Benzo(a)pyrene (SIM)	72.3	4.0	µg/L	100		72.3	40-140			
Benzo(b)fluoranthene (SIM)	71.3	20	µg/L	100		71.3	40-140			
Benzo(k)fluoranthene (SIM)	75.3	20	µg/L	100		75.3	40-140			
Chrysene (SIM)	69.4	40	µg/L	100		69.4	40-140			
Dibenz(a,h)anthracene (SIM)	80.3	10	µg/L	100		80.3	40-140			
Indeno(1,2,3-cd)pyrene (SIM)	75.0	10	µg/L	100		75.0	40-140			
Surrogate: o-Terphenyl (OTP) (SIM)	73.2		µg/L	100		73.2	30-130			
<b>CS Dup (B233211-BSD1)</b>										
Prepared: 06/12/19 Analyzed: 06/13/19										
Benzo(a)anthracene (SIM)	56.3	20	µg/L	100		56.3	40-140	18.0	20	
Benzo(a)pyrene (SIM)	60.0	4.0	µg/L	100		60.0	40-140	18.6	20	
Benzo(b)fluoranthene (SIM)	59.6	20	µg/L	100		59.6	40-140	17.9	20	
Benzo(k)fluoranthene (SIM)	63.0	20	µg/L	100		63.0	40-140	17.8	20	
Chrysene (SIM)	58.3	40	µg/L	100		58.3	40-140	17.4	20	
Dibenz(a,h)anthracene (SIM)	67.0	10	µg/L	100		67.0	40-140	18.0	20	
Indeno(1,2,3-cd)pyrene (SIM)	62.2	10	µg/L	100		62.2	40-140	18.7	20	
Surrogate: o-Terphenyl (OTP) (SIM)	61.4		µg/L	100		61.4	30-130			

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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232858 - SW-846 3510C										
Blank (B232858-BLK1)										
Prepared: 06/09/19 Analyzed: 06/12/19										
Aldrin	ND	0.050	µg/L							
Aldrin [2C]	ND	0.050	µg/L							
alpha-BHC	ND	0.050	µg/L							
alpha-BHC [2C]	ND	0.050	µg/L							
beta-BHC	ND	0.050	µg/L							
beta-BHC [2C]	ND	0.050	µg/L							
delta-BHC	ND	0.050	µg/L							
delta-BHC [2C]	ND	0.050	µg/L							
gamma-BHC (Lindane)	ND	0.030	µg/L							
gamma-BHC (Lindane) [2C]	ND	0.030	µg/L							
Chlordane	ND	0.20	µg/L							
Chlordane [2C]	ND	0.20	µg/L							
4,4'-DDD	ND	0.040	µg/L							
4,4'-DDD [2C]	ND	0.040	µg/L							
4,4'-DDE	ND	0.040	µg/L							
4,4'-DDE [2C]	ND	0.040	µg/L							
4,4'-DDT	ND	0.040	µg/L							
4,4'-DDT [2C]	ND	0.040	µg/L							
Dieldrin	ND	0.0020	µg/L							
Dieldrin [2C]	ND	0.0020	µg/L							
Endosulfan I	ND	0.050	µg/L							
Endosulfan I [2C]	ND	0.050	µg/L							
Endosulfan II	ND	0.080	µg/L							
Endosulfan II [2C]	ND	0.080	µg/L							
Endosulfan Sulfate	ND	0.080	µg/L							
Endosulfan Sulfate [2C]	ND	0.080	µg/L							
Endrin	ND	0.080	µg/L							
Endrin [2C]	ND	0.080	µg/L							
Endrin Aldehyde	ND	0.080	µg/L							
Endrin Aldehyde [2C]	ND	0.080	µg/L							
Endrin Ketone	ND	0.080	µg/L							
Endrin Ketone [2C]	ND	0.080	µg/L							
Heptachlor	ND	0.050	µg/L							
Heptachlor [2C]	ND	0.050	µg/L							
Heptachlor Epoxide	ND	0.050	µg/L							
Heptachlor Epoxide [2C]	ND	0.050	µg/L							
Hexachlorobenzene	ND	0.050	µg/L							
Hexachlorobenzene [2C]	ND	0.050	µg/L							
Methoxychlor	ND	0.50	µg/L							
Methoxychlor [2C]	ND	0.50	µg/L							
Surrogate: Decachlorobiphenyl	1.74		µg/L	2.00		86.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.77		µg/L	2.00		88.4	30-150			
Surrogate: Tetrachloro-m-xylene	1.60		µg/L	2.00		79.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.79		µg/L	2.00		89.6	30-150			

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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B232858 - SW-846 3510C

## LCS (B232858-BS1)

Prepared: 06/09/19 Analyzed: 06/12/19

Aldrin	0.91	0.050	µg/L	1.00		90.5	40-140			
Aldrin [2C]	0.90	0.050	µg/L	1.00		90.4	40-140			
alpha-BHC	0.91	0.050	µg/L	1.00		90.6	40-140			
alpha-BHC [2C]	0.91	0.050	µg/L	1.00		90.6	40-140			
beta-BHC	0.88	0.050	µg/L	1.00		87.7	40-140			
beta-BHC [2C]	0.85	0.050	µg/L	1.00		84.6	40-140			
delta-BHC	0.63	0.050	µg/L	1.00		62.9	40-140			
delta-BHC [2C]	0.67	0.050	µg/L	1.00		66.9	40-140			
gamma-BHC (Lindane)	0.91	0.030	µg/L	1.00		91.0	40-140			
gamma-BHC (Lindane) [2C]	0.92	0.030	µg/L	1.00		92.0	40-140			
4,4'-DDD	0.93	0.040	µg/L	1.00		93.4	40-140			
4,4'-DDD [2C]	0.96	0.040	µg/L	1.00		95.8	40-140			
4,4'-DDE	0.95	0.040	µg/L	1.00		94.8	40-140			
4,4'-DDE [2C]	0.94	0.040	µg/L	1.00		94.2	40-140			
4,4'-DDT	0.95	0.040	µg/L	1.00		95.5	40-140			
4,4'-DDT [2C]	0.91	0.040	µg/L	1.00		91.4	40-140			
Dieldrin	0.93	0.0020	µg/L	1.00		92.7	40-140			
Dieldrin [2C]	0.92	0.0020	µg/L	1.00		91.8	40-140			
Endosulfan I	0.85	0.050	µg/L	1.00		85.2	40-140			
Endosulfan I [2C]	0.87	0.050	µg/L	1.00		87.4	40-140			
Endosulfan II	0.80	0.080	µg/L	1.00		79.8	40-140			
Endosulfan II [2C]	0.79	0.080	µg/L	1.00		79.3	40-140			
Endosulfan Sulfate	0.93	0.080	µg/L	1.00		93.1	40-140			
Endosulfan Sulfate [2C]	0.91	0.080	µg/L	1.00		91.3	40-140			
Endrin	0.94	0.080	µg/L	1.00		94.0	40-140			
Endrin [2C]	0.91	0.080	µg/L	1.00		91.1	40-140			
Endrin Ketone	0.90	0.080	µg/L	1.00		90.3	40-140			
Endrin Ketone [2C]	0.95	0.080	µg/L	1.00		95.3	40-140			
Heptachlor	0.68	0.050	µg/L	1.00		68.2	40-140			
Heptachlor [2C]	0.91	0.050	µg/L	1.00		90.6	40-140			
Heptachlor Epoxide	0.89	0.050	µg/L	1.00		89.3	40-140			
Heptachlor Epoxide [2C]	0.87	0.050	µg/L	1.00		87.4	40-140			
Hexachlorobenzene	1.0	0.050	µg/L	1.00		101	40-140			
Hexachlorobenzene [2C]	0.91	0.050	µg/L	1.00		90.9	40-140			
Methoxychlor	0.90	0.50	µg/L	1.00		90.2	40-140			
Methoxychlor [2C]	0.90	0.50	µg/L	1.00		90.1	40-140			
Surrogate: Decachlorobiphenyl	1.90		µg/L	2.00		95.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.96		µg/L	2.00		97.8	30-150			
Surrogate: Tetrachloro-m-xylene	1.85		µg/L	2.00		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.90		µg/L	2.00		95.0	30-150			

## LCS Dup (B232858-BSD1)

Prepared: 06/09/19 Analyzed: 06/12/19

Aldrin	0.93	0.050	µg/L	1.00		92.9	40-140	2.57	30	
Aldrin [2C]	0.90	0.050	µg/L	1.00		90.3	40-140	0.163	30	
alpha-BHC	0.92	0.050	µg/L	1.00		92.0	40-140	1.51	30	
alpha-BHC [2C]	0.90	0.050	µg/L	1.00		89.9	40-140	0.749	30	
beta-BHC	0.87	0.050	µg/L	1.00		86.9	40-140	0.858	30	
beta-BHC [2C]	0.81	0.050	µg/L	1.00		81.3	40-140	3.97	30	
gamma-BHC	0.49	0.050	µg/L	1.00		49.2	40-140	24.3	30	
gamma-BHC [2C]	0.51	0.050	µg/L	1.00		50.8	40-140	27.5	30	
gamma-BHC (Lindane)	0.92	0.030	µg/L	1.00		91.9	40-140	0.984	30	
gamma-BHC (Lindane) [2C]	0.89	0.030	µg/L	1.00		89.4	40-140	2.79	30	



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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232858 - SW-846 3510C										
LCS Dup (B232858-BSD1)										
Prepared: 06/09/19 Analyzed: 06/12/19										
4,4'-DDD	0.95	0.040	µg/L	1.00		95.2	40-140	1.92	30	
4,4'-DDD [2C]	0.96	0.040	µg/L	1.00		96.4	40-140	0.599	30	
4,4'-DDE	0.96	0.040	µg/L	1.00		96.4	40-140	1.73	30	
4,4'-DDE [2C]	0.95	0.040	µg/L	1.00		94.8	40-140	0.732	30	
4,4'-DDT	0.97	0.040	µg/L	1.00		97.2	40-140	1.83	30	
4,4'-DDT [2C]	0.92	0.040	µg/L	1.00		92.5	40-140	1.19	30	
Dieldrin	0.94	0.0020	µg/L	1.00		94.0	40-140	1.38	30	
Dieldrin [2C]	0.92	0.0020	µg/L	1.00		91.5	40-140	0.253	30	
Endosulfan I	0.83	0.050	µg/L	1.00		82.7	40-140	2.93	30	
Endosulfan I [2C]	0.83	0.050	µg/L	1.00		83.2	40-140	4.94	30	
Endosulfan II	0.79	0.080	µg/L	1.00		78.7	40-140	1.45	30	
Endosulfan II [2C]	0.77	0.080	µg/L	1.00		77.2	40-140	2.76	30	
Endosulfan Sulfate	0.94	0.080	µg/L	1.00		93.7	40-140	0.615	30	
Endosulfan Sulfate [2C]	0.91	0.080	µg/L	1.00		90.6	40-140	0.699	30	
Endrin	0.95	0.080	µg/L	1.00		95.3	40-140	1.33	30	
Endrin [2C]	0.91	0.080	µg/L	1.00		90.7	40-140	0.470	30	
Endrin Ketone	0.92	0.080	µg/L	1.00		92.2	40-140	2.03	30	
Endrin Ketone [2C]	1.0	0.080	µg/L	1.00		101	40-140	5.76	30	
Heptachlor	0.70	0.050	µg/L	1.00		70.4	40-140	3.17	30	
Heptachlor [2C]	0.90	0.050	µg/L	1.00		89.8	40-140	0.844	30	
Heptachlor Epoxide	0.91	0.050	µg/L	1.00		90.7	40-140	1.60	30	
Heptachlor Epoxide [2C]	0.87	0.050	µg/L	1.00		86.6	40-140	0.953	30	
Hexachlorobenzene	1.0	0.050	µg/L	1.00		104	40-140	3.27	30	
Hexachlorobenzene [2C]	0.91	0.050	µg/L	1.00		91.3	40-140	0.470	30	
Methoxychlor	0.91	0.50	µg/L	1.00		91.5	40-140	1.45	30	
Methoxychlor [2C]	0.91	0.50	µg/L	1.00		90.5	40-140	0.479	30	
Surrogate: Decachlorobiphenyl	1.92		µg/L	2.00		96.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.96		µg/L	2.00		97.9	30-150			
Surrogate: Tetrachloro-m-xylene	1.91		µg/L	2.00		95.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.90		µg/L	2.00		95.1	30-150			

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## QUALITY CONTROL

## Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232856 - SW-846 3510C										
Blank (B232856-BLK1)										
Prepared: 06/09/19 Analyzed: 06/11/19										
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	1.81		µg/L	2.00		90.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.67		µg/L	2.00		83.7	30-150			
Surrogate: Tetrachloro-m-xylene	1.62		µg/L	2.00		80.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.50		µg/L	2.00		74.9	30-150			
LCS (B232856-BS1)										
Prepared: 06/09/19 Analyzed: 06/11/19										
Aroclor-1016	0.50	0.20	µg/L	0.500		99.5	40-140			
Aroclor-1016 [2C]	0.50	0.20	µg/L	0.500		100	40-140			
Aroclor-1260	0.46	0.20	µg/L	0.500		91.4	40-140			
Aroclor-1260 [2C]	0.48	0.20	µg/L	0.500		96.3	40-140			
Surrogate: Decachlorobiphenyl	1.94		µg/L	2.00		97.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.80		µg/L	2.00		90.1	30-150			
Surrogate: Tetrachloro-m-xylene	1.80		µg/L	2.00		89.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.65		µg/L	2.00		82.3	30-150			
LCS Dup (B232856-BSD1)										
Prepared: 06/09/19 Analyzed: 06/11/19										
Aroclor-1016	0.50	0.20	µg/L	0.500		101	40-140	1.34	20	
Aroclor-1016 [2C]	0.51	0.20	µg/L	0.500		103	40-140	2.43	20	
Aroclor-1260	0.46	0.20	µg/L	0.500		92.3	40-140	0.908	20	
Aroclor-1260 [2C]	0.48	0.20	µg/L	0.500		96.1	40-140	0.191	20	
Surrogate: Decachlorobiphenyl	1.97		µg/L	2.00		98.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	1.85		µg/L	2.00		92.4	30-150			
Surrogate: Tetrachloro-m-xylene	1.84		µg/L	2.00		92.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	1.69		µg/L	2.00		84.5	30-150			

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## QUALITY CONTROL

## Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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## Batch B232959 - SW-846 3510C

## Blank (B232959-BLK1)

Prepared: 06/10/19 Analyzed: 06/13/19

2,4-D	ND	0.50	µg/L							
2,4-D [2C]	ND	0.50	µg/L							
2,4-DB	ND	0.50	µg/L							
2,4-DB [2C]	ND	0.50	µg/L							
2,4,5-TP (Silvex)	ND	0.050	µg/L							
2,4,5-TP (Silvex) [2C]	ND	0.050	µg/L							
2,4,5-T	ND	0.10	µg/L							
2,4,5-T [2C]	ND	0.10	µg/L							
Dalapon	ND	1.2	µg/L							
Dalapon [2C]	ND	1.2	µg/L							
Dicamba	ND	0.050	µg/L							
Dicamba [2C]	ND	0.050	µg/L							
Dichloroprop	ND	0.50	µg/L							
Dichloroprop [2C]	ND	0.50	µg/L							
Dinoseb	ND	0.25	µg/L							
Dinoseb [2C]	ND	0.25	µg/L							
MCPA	ND	50	µg/L							
MCPA [2C]	ND	50	µg/L							
MCPP	ND	50	µg/L							
MCPP [2C]	ND	50	µg/L							
Surrogate: 2,4-Dichlorophenylacetic acid	1.64		µg/L	2.00		82.1	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	1.68		µg/L	2.00		84.2	30-150			

## LCS (B232959-BS1)

Prepared: 06/10/19 Analyzed: 06/13/19

2,4-D	2.04	0.50	µg/L	2.50		81.6	40-140			
2,4-D [2C]	2.16	0.50	µg/L	2.50		86.2	40-140			
2,4-DB	2.09	0.50	µg/L	2.50		83.6	40-140			
2,4-DB [2C]	2.17	0.50	µg/L	2.50		86.7	40-140			
2,4,5-TP (Silvex)	0.223	0.050	µg/L	0.250		89.1	40-140			
2,4,5-TP (Silvex) [2C]	0.215	0.050	µg/L	0.250		86.0	40-140			
2,4,5-T	0.228	0.10	µg/L	0.250		91.3	40-140			
2,4,5-T [2C]	0.232	0.10	µg/L	0.250		92.9	40-140			
Dalapon	4.05	1.2	µg/L	6.25		64.9	40-140			
Dalapon [2C]	4.06	1.2	µg/L	6.25		65.0	40-140			
Dicamba	0.301	0.050	µg/L	0.250		121	40-140			
Dicamba [2C]	0.208	0.050	µg/L	0.250		83.2	40-140			
Dichloroprop	2.17	0.50	µg/L	2.50		86.7	40-140			
Dichloroprop [2C]	2.20	0.50	µg/L	2.50		88.1	40-140			
Dinoseb	0.943	0.25	µg/L	1.25		75.4	10-140			
Dinoseb [2C]	0.940	0.25	µg/L	1.25		75.2	10-140			
MCPA	188	50	µg/L	250		75.3	40-140			
MCPA [2C]	200	50	µg/L	250		79.8	40-140			
MCPP	204	50	µg/L	250		81.8	40-140			
MCPP [2C]	203	50	µg/L	250		81.2	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	1.74		µg/L	2.00		87.0	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	1.75		µg/L	2.00		87.3	30-150			

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## QUALITY CONTROL

## Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232959 - SW-846 3510C										
LCS Dup (B232959-BSD1)										
Prepared: 06/10/19 Analyzed: 06/13/19										
2,4-D	2.08	0.50	µg/L	2.50		83.3	40-140	2.13	20	
2,4-D [2C]	2.20	0.50	µg/L	2.50		87.9	40-140	1.93	20	
2,4-DB	2.16	0.50	µg/L	2.50		86.2	40-140	3.06	20	
2,4-DB [2C]	2.34	0.50	µg/L	2.50		93.5	40-140	7.47	20	
2,4,5-TP (Silvex)	0.224	0.050	µg/L	0.250		89.5	40-140	0.520	20	
2,4,5-TP (Silvex) [2C]	0.220	0.050	µg/L	0.250		88.1	40-140	2.39	20	
2,4,5-T	0.202	0.10	µg/L	0.250		81.0	40-140	12.0	20	
2,4,5-T [2C]	0.223	0.10	µg/L	0.250		89.1	40-140	4.22	20	
Dalapon	4.00	1.2	µg/L	6.25		64.0	40-140	1.33	20	
Dalapon [2C]	4.03	1.2	µg/L	6.25		64.4	40-140	0.904	20	
Dicamba	0.334	0.050	µg/L	0.250		134	40-140	10.3	20	
Dicamba [2C]	0.213	0.050	µg/L	0.250		85.2	40-140	2.38	20	
Dichloroprop	2.22	0.50	µg/L	2.50		88.7	40-140	2.28	20	
Dichloroprop [2C]	2.26	0.50	µg/L	2.50		90.4	40-140	2.52	20	
Dinoseb	0.931	0.25	µg/L	1.25		74.5	10-140	1.25	20	
Dinoseb [2C]	0.947	0.25	µg/L	1.25		75.8	10-140	0.688	20	
MCPA	196	50	µg/L	250		78.5	40-140	4.09	20	
MCPA [2C]	203	50	µg/L	250		81.4	40-140	1.97	20	
MCPP	216	50	µg/L	250		86.3	40-140	5.40	20	
MCPP [2C]	206	50	µg/L	250		82.2	40-140	1.23	20	
Surrogate: 2,4-Dichlorophenylacetic acid	1.80		µg/L	2.00		90.1	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	1.78		µg/L	2.00		89.2	30-150			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232960 - SW-846 3510C										
Blank (B232960-BLK1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
C9-C18 Aliphatics	ND	100	µg/L							
C19-C36 Aliphatics	ND	100	µg/L							
Unadjusted C11-C22 Aromatics	ND	100	µg/L							
C11-C22 Aromatics	ND	100	µg/L							
Acenaphthene	ND	2.0	µg/L							
Acenaphthylene	ND	2.0	µg/L							
Anthracene	ND	2.0	µg/L							
Benzo(g,h,i)perylene	ND	2.0	µg/L							
Fluoranthene	ND	2.0	µg/L							
Fluorene	ND	2.0	µg/L							
2-Methylnaphthalene	ND	2.0	µg/L							
Naphthalene	ND	2.0	µg/L							
Phenanthrene	ND	2.0	µg/L							
Pyrene	ND	2.0	µg/L							
n-Decane	ND	2.0	µg/L							
n-Docosane	ND	2.0	µg/L							
n-Dodecane	ND	2.0	µg/L							
n-Eicosane	ND	2.0	µg/L							
n-Hexacosane	ND	2.0	µg/L							
n-Hexadecane	ND	2.0	µg/L							
Hexatriacontane	ND	2.0	µg/L							
n-Nonadecane	ND	2.0	µg/L							
n-Nonane	ND	2.0	µg/L							
n-Octacosane	ND	2.0	µg/L							
n-Octadecane	ND	2.0	µg/L							
n-Tetracosane	ND	2.0	µg/L							
n-Tetradecane	ND	2.0	µg/L							
n-Triacontane	ND	2.0	µg/L							
Naphthalene-aliphatic fraction	ND	2.0	µg/L							
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L							
Surrogate: Chlorooctadecane (COD)	72.8		µg/L	100		72.8	40-140			
Surrogate: o-Terphenyl (OTP)	78.4		µg/L	100		78.4	40-140			
Surrogate: 2-Bromonaphthalene	112		µg/L	100		112	40-140			
Surrogate: 2-Fluorobiphenyl	122		µg/L	100		122	40-140			
LCS (B232960-BS1)										
Prepared: 06/11/19 Analyzed: 06/12/19										
C9-C18 Aliphatics	491	100	µg/L	600		81.8	0-200			
C19-C36 Aliphatics	603	100	µg/L	800		75.4	0-200			
Unadjusted C11-C22 Aromatics	1280	100	µg/L	1700		75.0	0-200			
Acenaphthene	76.3	2.0	µg/L	100		76.3	40-140			
Acenaphthylene	69.6	2.0	µg/L	100		69.6	40-140			
Anthracene	75.7	2.0	µg/L	100		75.7	40-140			
Benzo(g,h,i)perylene	69.6	2.0	µg/L	100		69.6	40-140			
Fluoranthene	77.3	2.0	µg/L	100		77.3	40-140			
Fluorene	73.3	2.0	µg/L	100		73.3	40-140			
2-Methylnaphthalene	64.9	2.0	µg/L	100		64.9	40-140			
Naphthalene	66.8	2.0	µg/L	100		66.8	40-140			
Phenanthrene	75.5	2.0	µg/L	100		75.5	40-140			
ne	78.2	2.0	µg/L	100		78.2	40-140			
ecane	50.1	2.0	µg/L	100		50.1	40-140			
n-Docosane	79.1	2.0	µg/L	100		79.1	40-140			
n-Dodecane	59.7	2.0	µg/L	100		59.7	40-140			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B232960 - SW-846 3510C

## LCS (B232960-BS1)

Prepared: 06/11/19 Analyzed: 06/12/19

n-Eicosane	74.2	2.0	µg/L	100		74.2	40-140			
n-Hexacosane	79.1	2.0	µg/L	100		79.1	40-140			
n-Hexadecane	73.9	2.0	µg/L	100		73.9	40-140			
n-Hexatriacontane	77.4	2.0	µg/L	100		77.4	40-140			
n-Nonadecane	74.8	2.0	µg/L	100		74.8	40-140			
n-Nonane	40.5	2.0	µg/L	100		40.5	30-140			
n-Octacosane	77.2	2.0	µg/L	100		77.2	40-140			
n-Octadecane	75.3	2.0	µg/L	100		75.3	40-140			
n-Tetracosane	79.1	2.0	µg/L	100		79.1	40-140			
n-Tetradecane	68.3	2.0	µg/L	100		68.3	40-140			
n-Triacontane	76.6	2.0	µg/L	100		76.6	40-140			
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	74.8		µg/L	100		74.8	40-140			
Surrogate: o-Terphenyl (OTP)	77.0		µg/L	100		77.0	40-140			
Surrogate: 2-Bromonaphthalene	103		µg/L	100		103	40-140			
Surrogate: 2-Fluorobiphenyl	120		µg/L	100		120	40-140			

## LCS Dup (B232960-BS1)

Prepared: 06/11/19 Analyzed: 06/12/19

1-C18 Aliphatics	494	100	µg/L	600		82.3	0-200	0.629		
C19-C36 Aliphatics	570	100	µg/L	800		71.2	0-200	5.70		
Unadjusted C11-C22 Aromatics	1290	100	µg/L	1700		76.0	0-200	1.25		
Acenaphthene	78.3	2.0	µg/L	100		78.3	40-140	2.51	25	
Acenaphthylene	71.7	2.0	µg/L	100		71.7	40-140	2.96	25	
Anthracene	77.4	2.0	µg/L	100		77.4	40-140	2.24	25	
Benzo(g,h,i)perylene	68.9	2.0	µg/L	100		68.9	40-140	1.08	25	
Fluoranthene	78.4	2.0	µg/L	100		78.4	40-140	1.51	25	
Fluorene	75.1	2.0	µg/L	100		75.1	40-140	2.41	25	
2-Methylnaphthalene	68.1	2.0	µg/L	100		68.1	40-140	4.91	25	
Naphthalene	71.6	2.0	µg/L	100		71.6	40-140	6.80	25	
Phenanthrene	77.2	2.0	µg/L	100		77.2	40-140	2.16	25	
Pyrene	79.3	2.0	µg/L	100		79.3	40-140	1.47	25	
n-Decane	58.6	2.0	µg/L	100		58.6	40-140	15.6	25	
n-Docosane	73.8	2.0	µg/L	100		73.8	40-140	6.88	25	
n-Dodecane	65.4	2.0	µg/L	100		65.4	40-140	9.22	25	
n-Eicosane	69.5	2.0	µg/L	100		69.5	40-140	6.57	25	
n-Hexacosane	74.2	2.0	µg/L	100		74.2	40-140	6.33	25	
n-Hexadecane	70.9	2.0	µg/L	100		70.9	40-140	4.13	25	
n-Hexatriacontane	72.5	2.0	µg/L	100		72.5	40-140	6.58	25	
n-Nonadecane	70.1	2.0	µg/L	100		70.1	40-140	6.58	25	
n-Nonane	50.5	2.0	µg/L	100		50.5	30-140	21.8	25	
n-Octacosane	71.9	2.0	µg/L	100		71.9	40-140	7.13	25	
n-Octadecane	70.8	2.0	µg/L	100		70.8	40-140	6.24	25	
n-Tetracosane	73.7	2.0	µg/L	100		73.7	40-140	7.11	25	
n-Tetradecane	68.7	2.0	µg/L	100		68.7	40-140	0.561	25	
n-Triacontane	71.8	2.0	µg/L	100		71.8	40-140	6.42	25	
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100			0-5			
Surrogate: Chlorooctadecane (COD)	68.2		µg/L	100		68.2	40-140			
Surrogate: o-Terphenyl (OTP)	78.9		µg/L	100		78.9	40-140			
Surrogate: 2-Bromonaphthalene	108		µg/L	100		108	40-140			
Surrogate: 2-Fluorobiphenyl	124		µg/L	100		124	40-140			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B233005 - MA VPH										
Blank (B233005-BLK1)										
Prepared & Analyzed: 06/11/19										
Unadjusted C5-C8 Aliphatics	ND	100	µg/L							
C5-C8 Aliphatics	ND	100	µg/L							
Unadjusted C9-C12 Aliphatics	ND	100	µg/L							
C9-C12 Aliphatics	ND	100	µg/L							
C9-C10 Aromatics	ND	100	µg/L							
Benzene	ND	1.0	µg/L							
Butylcyclohexane	ND	1.0	µg/L							
Decane	ND	1.0	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
2-Methylpentane	ND	1.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Nonane	ND	1.0	µg/L							
Pentane	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
2,2,4-Trimethylpentane	ND	1.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 2,5-Dibromotoluene (FID)	47.9		µg/L	40.0		120	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	47.3		µg/L	40.0		118	70-130			
LCS (B233005-BS1)										
Prepared & Analyzed: 06/11/19										
Benzene	47.8	1.0	µg/L	50.0		95.5	70-130			
Butylcyclohexane	58.6	1.0	µg/L	50.0		117	70-130			
Decane	48.3	1.0	µg/L	50.0		96.6	70-130			
Ethylbenzene	47.7	1.0	µg/L	50.0		95.3	70-130			
Methyl tert-Butyl Ether (MTBE)	44.5	1.0	µg/L	50.0		89.0	70-130			
2-Methylpentane	52.5	1.0	µg/L	50.0		105	70-130			
Naphthalene	46.3	5.0	µg/L	50.0		92.5	70-130			
Nonane	56.2	1.0	µg/L	50.0		112	30-130			
Pentane	49.6	1.0	µg/L	50.0		99.1	70-130			
Toluene	47.6	1.0	µg/L	50.0		95.1	70-130			
1,2,4-Trimethylbenzene	47.7	1.0	µg/L	50.0		95.3	70-130			
2,2,4-Trimethylpentane	47.8	1.0	µg/L	50.0		95.5	70-130			
m+p Xylene	96.7	2.0	µg/L	100		96.7	70-130			
o-Xylene	48.0	1.0	µg/L	50.0		96.1	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	46.7		µg/L	40.0		117	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	45.3		µg/L	40.0		113	70-130			
LCS Dup (B233005-BS1)										
Prepared & Analyzed: 06/11/19										
Benzene	46.1	1.0	µg/L	50.0		92.3	70-130	3.49	25	
Butylcyclohexane	56.2	1.0	µg/L	50.0		112	70-130	4.04	25	
Decane	45.7	1.0	µg/L	50.0		91.5	70-130	5.44	25	
Ethylbenzene	46.3	1.0	µg/L	50.0		92.5	70-130	2.98	25	
Methyl tert-Butyl Ether (MTBE)	42.9	1.0	µg/L	50.0		85.8	70-130	3.63	25	
2-Methylpentane	50.1	1.0	µg/L	50.0		100	70-130	4.62	25	
Naphthalene	44.2	5.0	µg/L	50.0		88.4	70-130	4.53	25	
Nonane	54.6	1.0	µg/L	50.0		109	30-130	2.96	25	
Pentane	47.1	1.0	µg/L	50.0		94.2	70-130	5.10	25	
Toluene	46.1	1.0	µg/L	50.0		92.2	70-130	3.14	25	
1,2,4-Trimethylbenzene	46.0	1.0	µg/L	50.0		92.0	70-130	3.51	25	

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B233005 - MA VPH										
LCS Dup (B233005-BSD1)										
Prepared & Analyzed: 06/11/19										
2,2,4-Trimethylpentane	45.8	1.0	µg/L	50.0		91.5	70-130	4.26	25	
m+p Xylene	93.3	2.0	µg/L	100		93.3	70-130	3.52	25	
o-Xylene	46.4	1.0	µg/L	50.0		92.9	70-130	3.37	25	
Surrogate: 2,5-Dibromotoluene (FID)	37.9		µg/L	40.0		94.8	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	37.6		µg/L	40.0		94.0	70-130			



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## QUALITY CONTROL

## Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B233013 - SW-846 3005A Dissolved										
Blank (B233013-BLK1)										
Prepared: 06/11/19 Analyzed: 06/13/19										
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.80	µg/L							
Barium	ND	10	µg/L							
Beryllium	ND	0.40	µg/L							
Cadmium	ND	0.20	µg/L							
Chromium	ND	1.0	µg/L							
Lead	ND	0.50	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.20	µg/L							
Thallium	ND	0.20	µg/L							
Vanadium	ND	5.0	µg/L							
Zinc	ND	10	µg/L							
LCS (B233013-BS1)										
Prepared: 06/11/19 Analyzed: 06/13/19										
Antimony	531	10	µg/L	500		106	80-120			
Arsenic	524	8.0	µg/L	500		105	80-120			
Barium	514	100	µg/L	500		103	80-120			
Beryllium	464	4.0	µg/L	500		92.9	80-120			
Cadmium	530	2.0	µg/L	500		106	80-120			
Chromium	517	10	µg/L	500		103	80-120			
Lead	529	5.0	µg/L	500		106	80-120			
Nickel	521	50	µg/L	500		104	80-120			
Selenium	522	50	µg/L	500		104	80-120			
Silver	521	2.0	µg/L	500		104	80-120			
Thallium	503	2.0	µg/L	500		101	80-120			
Vanadium	513	50	µg/L	500		103	80-120			
Zinc	1050	100	µg/L	1000		105	80-120			
LCS Dup (B233013-BSD1)										
Prepared: 06/11/19 Analyzed: 06/13/19										
Antimony	528	10	µg/L	500		106	80-120	0.548	20	
Arsenic	531	8.0	µg/L	500		106	80-120	1.50	20	
Barium	510	100	µg/L	500		102	80-120	0.733	20	
Beryllium	465	4.0	µg/L	500		92.9	80-120	0.0536	20	
Cadmium	524	2.0	µg/L	500		105	80-120	1.24	20	
Chromium	528	10	µg/L	500		106	80-120	2.20	20	
Lead	529	5.0	µg/L	500		106	80-120	0.0635	20	
Nickel	523	50	µg/L	500		105	80-120	0.511	20	
Selenium	528	50	µg/L	500		106	80-120	1.20	20	
Silver	520	2.0	µg/L	500		104	80-120	0.131	20	
Thallium	505	2.0	µg/L	500		101	80-120	0.486	20	
Vanadium	517	50	µg/L	500		103	80-120	0.722	20	
Zinc	1060	100	µg/L	1000		106	80-120	0.810	20	

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## QUALITY CONTROL

## Metals Analyses (Dissolved) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B233013 - SW-846 3005A Dissolved										
Duplicate (B233013-DUP1)										
Source: 19F0402-01				Prepared: 06/11/19 Analyzed: 06/13/19						
Antimony	ND	1.0	µg/L		ND			NC	20	
Arsenic	ND	0.80	µg/L		ND			NC	20	
Barium	26.3	10	µg/L		25.9			1.86	20	
Beryllium	ND	0.40	µg/L		ND			NC	20	
Cadmium	ND	0.20	µg/L		ND			NC	20	
Chromium	7.32	1.0	µg/L		7.00			4.43	20	
Lead	3.37	0.50	µg/L		3.27			3.08	20	
Nickel	ND	5.0	µg/L		ND			NC	20	
Selenium	ND	5.0	µg/L		ND			NC	20	
Silver	ND	0.20	µg/L		ND			NC	20	
Thallium	ND	0.20	µg/L		ND			NC	20	
Vanadium	6.36	5.0	µg/L		5.74			10.2	20	
Zinc	13.8	10	µg/L		15.3			10.3	20	
Matrix Spike (B233013-MS1)										
Source: 19F0402-01				Prepared: 06/11/19 Analyzed: 06/13/19						
Antimony	513	10	µg/L	500	ND	103	75-125			
Arsenic	528	8.0	µg/L	500	ND	106	75-125			
Barium	536	100	µg/L	500	25.9	102	75-125			
Beryllium	528	4.0	µg/L	500	ND	106	75-125			
Cadmium	516	2.0	µg/L	500	ND	103	75-125			
Chromium	534	10	µg/L	500	7.00	105	75-125			
Lead	534	5.0	µg/L	500	3.27	106	75-125			
Nickel	540	50	µg/L	500	ND	108	75-125			
Selenium	527	50	µg/L	500	ND	105	75-125			
Silver	479	2.0	µg/L	500	ND	95.8	75-125			
Thallium	507	2.0	µg/L	500	ND	101	75-125			
Vanadium	526	50	µg/L	500	ND	105	75-125			
Zinc	1080	100	µg/L	1000	ND	108	75-125			
Batch B233055 - SW-846 7470A Dissolved										
Blank (B233055-BLK1)										
				Prepared: 06/11/19 Analyzed: 06/12/19						
Mercury	ND	0.00010	mg/L							
LCS (B233055-BS1)										
				Prepared: 06/11/19 Analyzed: 06/12/19						
Mercury	0.00376	0.00010	mg/L	0.00400	94.1		80-120			
LCS Dup (B233055-BSD1)										
				Prepared: 06/11/19 Analyzed: 06/12/19						
Mercury	0.00372	0.00010	mg/L	0.00400	93.0		80-120	1.16	20	

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## BREAKDOWN REPORT

Lab Sample ID: S037025-PEM1 Analyzed: 06/11/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	0.52
Endrin [1]	1.66

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	0.59
Endrin [2]	1.86

## BREAKDOWN REPORT

Lab Sample ID: S037025-PEM2 Analyzed: 06/12/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	0.67
Endrin [1]	2.18

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	0.69
Endrin [2]	2.30

## BREAKDOWN REPORT

Lab Sample ID: S037025-PEM3 Analyzed: 06/12/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	0.81
Endrin [1]	2.76

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## BREAKDOWN REPORT

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**Lab Sample ID:** S037025-PEM3 **Analyzed:** 06/12/2019

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**Column Number:** 2

---

**Analyte** **% Breakdown**

4,4'-DDT [2] 0.86

Endrin [2] 2.99

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES *SW-846 8081B*

GP-7.MW

Lab Sample ID: 19F0402-03 Date(s) Analyzed: 06/11/2019 06/12/2019  
Instrument ID (1): ECD6A Instrument ID (2): ECD6B  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDT	1	7.520	0.000	0.000	0.052	
	2	7.563	0.000	0.000	0.057	9.2
alpha-BHC	1	5.482	0.000	0.000	5.2	
	2	5.417	0.000	0.000	5.2	0.0
beta-BHC	1	5.739	0.000	0.000	2.0	
	2	5.688	0.000	0.000	1.7	16.2
Chlordane	1	0.000	0.000	0.000	2.4	
	2	0.000	0.000	0.000	3.2	28.6
delta-BHC	1	5.856	0.000	0.000	13	
	2	5.877	0.000	0.000	14	7.4
Dieldrin	1	7.082	0.000	0.000	0.18	
	2	6.998	0.000	0.000	0.19	5.4
gamma-BHC (Lindane)	1	5.684	0.000	0.000	0.36	
	2	5.635	0.000	0.000	0.36	0.0
Heptachlor Epoxide	1	6.620	0.000	0.000	0.15	
	2	6.519	0.000	0.000	0.27	57.1

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B232856-BS1 Date(s) Analyzed: 06/11/2019 06/11/2019  
Instrument ID (1): ECD1 Instrument ID (2): ECD1  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.50	
	2	0.000	0.000	0.000	0.50	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.46	
	2	0.000	0.000	0.000	0.48	4.3

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES SW-846 8082A

LCS.Dup

Lab Sample ID: B232856-BSD1 Date(s) Analyzed: 06/11/2019 06/11/2019  
Instrument ID (1): ECD1 Instrument ID (2): ECD1  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.50	
	2	0.000	0.000	0.000	0.51	2.0
Aroclor-1260	1	0.000	0.000	0.000	0.46	
	2	0.000	0.000	0.000	0.48	4.3

# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B232858-BS1 Date(s) Analyzed: 06/12/2019 06/12/2019

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.305	0.000	0.000	0.93	
	2	7.323	0.000	0.000	0.96	3.2
4,4'-DDE	1	6.862	0.000	0.000	0.95	
	2	6.888	0.000	0.000	0.94	1.1
4,4'-DDT	1	7.519	0.000	0.000	0.95	
	2	7.563	0.000	0.000	0.91	5.4
Aldrin	1	6.199	0.000	0.000	0.91	
	2	6.127	0.000	0.000	0.90	1.1
alpha-BHC	1	5.481	0.000	0.000	0.91	
	2	5.417	0.000	0.000	0.91	0.0
beta-BHC	1	5.738	0.000	0.000	0.88	
	2	5.689	0.000	0.000	0.85	3.5
delta-BHC	1	5.855	0.000	0.000	0.63	
	2	5.876	0.000	0.000	0.67	6.2
Dieldrin	1	7.081	0.000	0.000	0.93	
	2	7.000	0.000	0.000	0.92	1.1
Endosulfan I	1	6.905	0.000	0.000	0.85	
	2	6.799	0.000	0.000	0.87	2.3
Endosulfan II	1	7.423	0.000	0.000	0.80	
	2	7.388	0.000	0.000	0.79	1.3
Endosulfan Sulfate	1	8.071	0.000	0.000	0.93	
	2	7.867	0.000	0.000	0.91	2.2
Endrin	1	7.255	0.000	0.000	0.94	
	2	7.226	0.000	0.000	0.91	3.2
Endrin Ketone	1	8.260	0.000	0.000	0.90	
	2	8.242	0.000	0.000	0.95	5.4
gamma-BHC (Lindane)	1	5.683	0.000	0.000	0.91	
	2	5.635	0.000	0.000	0.92	1.1
Heptachlor	1	5.995	0.000	0.000	0.68	
	2	5.914	0.000	0.000	0.91	28.9
Heptachlor Epoxide	1	6.621	0.000	0.000	0.89	



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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES *SW-846 8081B*

LCS

Lab Sample ID: B232858-BS1 Date(s) Analyzed: 06/12/2019 06/12/2019  
Instrument ID (1): ECD6 Instrument ID (2): ECD6  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.521	0.000	0.000	0.87	2.3
Hexachlorobenzene	1	5.374	0.000	0.000	1.0	
	2	5.330	0.000	0.000	0.91	9.4
Methoxychlor	1	7.900	0.000	0.000	0.90	
	2	8.098	0.000	0.000	0.90	0.0

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B232858-BSD1 Date(s) Analyzed: 06/12/2019 06/12/2019

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.306	0.000	0.000	0.95	
	2	7.323	0.000	0.000	0.96	1.1
4,4'-DDE	1	6.862	0.000	0.000	0.96	
	2	6.890	0.000	0.000	0.95	1.1
4,4'-DDT	1	7.519	0.000	0.000	0.97	
	2	7.564	0.000	0.000	0.92	5.3
Aldrin	1	6.200	0.000	0.000	0.93	
	2	6.128	0.000	0.000	0.90	3.3
alpha-BHC	1	5.483	0.000	0.000	0.92	
	2	5.417	0.000	0.000	0.90	2.2
beta-BHC	1	5.739	0.000	0.000	0.87	
	2	5.690	0.000	0.000	0.81	7.1
delta-BHC	1	5.856	0.000	0.000	0.49	
	2	5.876	0.000	0.000	0.51	4.0
Dieldrin	1	7.082	0.000	0.000	0.94	
	2	7.001	0.000	0.000	0.92	2.2
Endosulfan I	1	6.906	0.000	0.000	0.83	
	2	6.800	0.000	0.000	0.83	0.0
Endosulfan II	1	7.424	0.000	0.000	0.79	
	2	7.389	0.000	0.000	0.77	2.6
Endosulfan Sulfate	1	8.072	0.000	0.000	0.94	
	2	7.867	0.000	0.000	0.91	3.2
Endrin	1	7.255	0.000	0.000	0.95	
	2	7.227	0.000	0.000	0.91	4.3
Endrin Ketone	1	8.260	0.000	0.000	0.92	
	2	8.243	0.000	0.000	1.0	8.3
gamma-BHC (Lindane)	1	5.684	0.000	0.000	0.92	
	2	5.636	0.000	0.000	0.89	3.3
Heptachlor	1	5.996	0.000	0.000	0.70	
	2	5.915	0.000	0.000	0.90	25.0
Heptachlor Epoxide	1	6.622	0.000	0.000	0.91	

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS.Dup

Lab Sample ID: B232858-BSD1 Date(s) Analyzed: 06/12/2019 06/12/2019  
Instrument ID (1): ECD6 Instrument ID (2): ECD6  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.522	0.000	0.000	0.87	4.5
Hexachlorobenzene	1	5.376	0.000	0.000	1.0	
	2	5.331	0.000	0.000	0.91	9.4
Methoxychlor	1	7.900	0.000	0.000	0.91	
	2	8.098	0.000	0.000	0.91	1.1

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES *SW-846 8151A*

LCS

Lab Sample ID: B232959-BS1 Date(s) Analyzed: 06/13/2019 06/13/2019  
Instrument ID (1): ECD 8 Instrument ID (2): ECD 8  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.813	0.000	0.000	0.228	
	2	13.926	0.000	0.000	0.232	0.9
2,4,5-TP (Silvex)	1	13.236	0.000	0.000	0.223	
	2	13.131	0.000	0.000	0.215	2.3
2,4-D	1	11.562	0.000	0.000	2.04	
	2	11.535	0.000	0.000	2.16	7.7
2,4-DB	1	14.946	0.000	0.000	2.09	
	2	14.993	0.000	0.000	2.17	3.3
Dalapon	1	3.730	0.000	0.000	4.05	
	2	3.397	0.000	0.000	4.06	1.0
Dicamba	1	9.704	0.000	0.000	0.301	
	2	9.582	0.000	0.000	0.208	36.2
Dichloroprop	1	11.109	0.000	0.000	2.17	
	2	10.927	0.000	0.000	2.20	0.0
Dinoseb	1	16.825	0.000	0.000	0.943	
	2	15.576	0.000	0.000	0.940	0.0
MCPA	1	10.431	0.000	0.000	188	
	2	10.324	0.000	0.000	200	5.1
MCPD	1	10.146	0.000	0.000	204	
	2	9.895	0.000	0.000	203	1.5

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS\_Dup

Lab Sample ID: B232959-BSD1 Date(s) Analyzed: 06/13/2019 06/13/2019

Instrument ID (1): ECD 8 Instrument ID (2): ECD 8

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.815	0.000	0.000	0.202	
	2	13.926	0.000	0.000	0.223	10.9
2,4,5-TP (Silvex)	1	13.235	0.000	0.000	0.224	
	2	13.132	0.000	0.000	0.220	0.0
2,4-D	1	11.562	0.000	0.000	2.08	
	2	11.535	0.000	0.000	2.20	4.7
2,4-DB	1	14.947	0.000	0.000	2.16	
	2	14.993	0.000	0.000	2.34	6.2
Dalapon	1	3.731	0.000	0.000	4.00	
	2	3.398	0.000	0.000	4.03	0.7
Dicamba	1	9.705	0.000	0.000	0.334	
	2	9.581	0.000	0.000	0.213	43.1
Dichloroprop	1	11.110	0.000	0.000	2.22	
	2	10.927	0.000	0.000	2.26	2.7
Dinoseb	1	16.826	0.000	0.000	0.931	
	2	15.577	0.000	0.000	0.947	1.8
MCPA	1	10.431	0.000	0.000	196	
	2	10.326	0.000	0.000	203	1.5
MCPP	1	10.147	0.000	0.000	216	
	2	9.896	0.000	0.000	206	6.6

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# FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
P-02	Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-07	Elevated reporting limit based on lowest point in calibration.
	MA CAM reporting limit not met.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<b>MADEP-EPH-04-1.1 in Soil</b>	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
2-Methylnaphthalene	CT,NC
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
<b>MADEP-EPH-04-1.1 in Water</b>	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
2-Methylnaphthalene	CT,NC
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
<b>MADEP-VPH-Feb 2018 Rev 2.1 in Water</b>	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
<b>W-846 6020B in Water</b>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,NC,ME,VA
Barium	MA,NY,CT,NC,NH,ME,VA

**CERTIFICATIONS**
**Certified Analyses included in this Report**

Analyte	Certifications
<i>SIV-846 6020B in Water</i>	
Beryllium	CT,NH,NY,NC,ME,VA
Cadmium	CT,NH,NY,NC,ME,VA
Chromium	CT,NH,NY,NC,ME,VA
Lead	CT,NH,NY,NC,ME,VA
Nickel	CT,NH,NY,NC,ME,VA
Selenium	CT,NH,NY,NC,ME,VA
Silver	CT,NC,NH,NY,ME,VA
Thallium	CT,NH,NY,NC,ME,VA
Vanadium	CT,NH,NY,NC,ME,VA
Zinc	CT,NH,NY,NC,ME,VA
<i>SIV-846 7470A in Water</i>	
Mercury	CT,NH,NY,NC,ME,VA
<i>SIV-846 8081B in Water</i>	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA



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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<i>SW-846 8081B in Water</i>	
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
<i>SW-846 8082A in Water</i>	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
<i>SW-846 8151A in Water</i>	
2,4-D	ME,NC,NH,CT,NY,VA
2,4-D [2C]	ME,NC,NH,CT,NY,VA
2,4-DB	ME,NC,NH,CT,NY,VA
2,4-DB [2C]	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex)	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex) [2C]	ME,NC,NH,CT,NY,VA
2,4,5-T	ME,NC,NH,CT,NY,VA
2,4,5-T [2C]	ME,NC,NH,CT,NY,VA
Dalapon	ME,NC,NH,CT,NY,VA
Dalapon [2C]	ME,NC,NH,CT,NY,VA
Dicamba	ME,NC,NH,CT,NY,VA
Dicamba [2C]	ME,NC,NH,CT,NY,VA
Dichloroprop	ME,NC,NH,CT,NY,VA
Dichloroprop [2C]	ME,NC,NH,CT,NY,VA
Dinoseb	ME,NC,NH,CT,NY,VA
Dinoseb [2C]	ME,NC,NH,CT,NY,VA
MCPA	NC,CT
MCPA [2C]	NC,CT
MCPP	NC,CT
MCPP [2C]	NC,CT
<i>SW-846 8260C in Water</i>	

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## CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME

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## Certified Analyses included in this Report

## CERTIFICATIONS

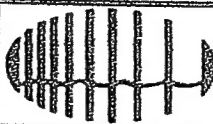
Analyte	Certifications
<i>SIV-846 8260C in Water</i>	
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2020
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2019



I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test®**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client CDW Consultants

Received By CF

Date 11/7/2019

Time 1745

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 4 Actual Temp - 3.4 + 2.6  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? N/A Were Samples Tampered with? N/A

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent information? Client T Analysis T Sampler Name T

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? \_\_\_\_\_

Are there Rushes? F Who was notified? \_\_\_\_\_

Are there Short Holds? F Who was notified? \_\_\_\_\_

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? \_\_\_\_\_ Acid T Base \_\_\_\_\_

Vials	#	Containers	#		#		#
Unp-		1 Liter Amb.	<u>13</u>	1 Liter Plastic		16 oz Amb.	
HCL-	<u>24</u>	500 mL Amb.		500 mL Plastic	<u>4</u>	8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

#### Unused Media

Vials	#	Containers	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

only 1 unpreserved IL received for 61p-5  
only 2 unpreserved IL received for 61p-7

## MADEP MCP Analytical Method Report Certification Form

Table of Contents

Laboratory Name: Con-Test Analytical Laboratory

Project #: 19F0402

Project Location: Beaver St., Waltham, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

19F0402-01 thru 19F0402-04

Matrices: Water

**CAM Protocol (check all that below)**

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D (X)	MassDEP EPH CAM IV B (X)	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

**Affirmative response to Questions A through F is required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>D</b>	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E a</b>	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>E b</b>	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

**A response to questions G, H and I below is required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.</b>		
<b>H</b>	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod E. Kopyscinski

Position: Laboratory Director

Printed Name: Tod E. KopyscinskiDate: 06/14/19

